

In the Claims:

Please amend the claims as follows:

1. (Withdrawn) A surgical clip comprising an elongated member and a pair of biasing mechanisms coupled to said member, said elongated member comprising shape memory material and having a memory set closed configuration from which it is moveable to a plurality of open configurations, said biasing mechanisms being selectively adjustable to bias the clip toward any of said plurality of open configurations, each biasing mechanism comprising a biasing member and an actuator, each biasing member adapted to apply a biasing force to said elongated member to urge said elongated member away from said closed configuration, and each actuator being coupled to one of said biasing members and adapted to activate said biasing member to apply said biasing force to said elongated member.
2. (Withdrawn) The surgical clip of claim 1 wherein each biasing mechanism comprises a coil and a sliding member, each coil surrounding a portion of said elongated member and each sliding member being slidably mounted to said elongated member to slidably engage one of said coils.
3. (Withdrawn) The surgical clip of claim 2 wherein each sliding member comprises a disk having an opening formed therethrough, said elongated member extending through each opening.
4. (Withdrawn) The surgical clip as in any one of claims 1-3 wherein said elongated member has two ends and said ends form enlarged portions of said clip.
5. (Withdrawn) The surgical clip of claim 4 further including tissue piercing members releasably coupled to enlarged portions.
6. (Withdrawn) The surgical clip as in any one of claims 1-3 wherein said elongated member has two pointed ends adapted to pierce tissue.
7. (Withdrawn) The surgical clip as in any one of claims 1-3 wherein said biasing

mechanisms are symmetrically arranged about said elongated member.

8. (Withdrawn) The surgical clip of claim 7 wherein said elongated member has two ends and said ends form enlarged portions of said clip.

9. (Withdrawn) The surgical clip of claim 8 further including tissue piercing members releasably coupled to said enlarged portions.

10. (Withdrawn) A surgical clip comprising an elongated member and a pair of biasing mechanisms coupled to said member, said elongated member comprising shape memory material and having a memory set closed configuration from which it is moveable to a plurality of open configurations, said biasing mechanisms being selectively adjustable to bias the clip toward any of said plurality of open configurations, said elongated member further having two tissue piercing members secured to and engaging said elongated member and extending therefrom.

11. (Withdrawn) The surgical clip of claim 10 wherein said piercing members are releasably secured to said elongated member.

12. (Withdrawn) The surgical clip of claim 11 wherein said biasing mechanisms are symmetrically arranged about said elongated member.

13. (Withdrawn) The surgical clip of claim 10 wherein said biasing mechanisms are symmetrically arranged about said elongated member.

14. (Withdrawn) A surgical clip comprising an elongated member and a pair of biasing mechanisms coupled to said member, said elongated member comprising shape memory material and having a memory set closed configuration from which it is moveable to a plurality of open configurations, said biasing mechanisms being selectively adjustable to bias the clip toward any of said plurality of open configurations, said elongated member further having two tissue piercing members integrally formed therewith.

15. (Withdrawn) The surgical clip of claim 14 wherein said biasing mechanisms are symmetrically arranged about said elongated member.

16. (Withdrawn) Surgical clip delivery apparatus for delivering a surgical clip as described in claim 1, said apparatus comprising:

a body member having an opening adapted to allow said surgical clip to pass therethrough for release thereof;

a clip holder disposed in said body and adapted to releasably hold said surgical clip; and

a controller having multiple actuator engaging surfaces disposed in said body member, said multiple surfaces configured to engage said clip actuators to adjust the force that the biasing member applies to said clip.

17. (Withdrawn) The apparatus of claim 16 wherein said controller has a slot formed therein which is adapted to receive said elongated member.

18. (Withdrawn) The apparatus of claim 17 wherein said controller slot is arranged so that said actuators engage at least two of said engaging surfaces when the elongated member of said surgical clip is positioned in said slot.

19. (Withdrawn) The apparatus of claim 18 wherein said body member has a distal end and a proximal end and said body member opening comprises a slot, which is formed in said body member and extends from said distal end, said body slot being aligned with said controller slot.

20. (Withdrawn) The apparatus of claim 16 wherein said engaging surfaces include sloped surfaces.

21. (Withdrawn) The apparatus of claim 20 wherein said engaging surfaces further include parallel surfaces.

22. (Withdrawn) The apparatus of claim 16 further including tissue piercing member

removal mechanisms coupled to said body member, said tissue piercing removal mechanisms having portions adapted to capture tissue piercing members when coupled to said clip.

23. (Withdrawn) A surgical system for closing an opening in tissue comprising:

- a self-closing clip as described in claim 1;
- a body member having an opening adapted to allow said surgical clip to pass therethrough for release thereof;
- a clip holder disposed in said body member and adapted to releasably hold said surgical clip; and
- a controller having multiple actuator engaging surfaces disposed in said body member, said multiple surfaces configured to engage said clip actuators to adjust the force that the biasing member applies to said clip.

24. (Withdrawn) The system of claim 23 wherein said controller has a slot formed therein which is adapted to receive said elongated member.

25. (Withdrawn) The system of claim 24 wherein said controller slot is arranged so that said actuators engage at least two of said engaging surfaces when the elongated member of, said surgical clip is positioned in said slot.

26. (Withdrawn) The system of claim 25 wherein said body member has a distal end and a proximal end and said body member opening comprises a slot, which is formed in said body member and extends from said distal end, said body slot being aligned with said controller slot.

27. (Withdrawn) The system of claim 23 wherein said engaging surfaces include sloped surfaces.

28. (Withdrawn) The system of claim 27 wherein said engaging surfaces further include parallel surfaces.

29. (Withdrawn) The system of claim 27 further including tissue piercing member removal mechanisms coupled to said body member, said tissue piercing removal mechanisms having portions adapted to capture tissue piercing members when coupled to said clip.

30. (Withdrawn) A surgical system for closing an opening in tissue comprising:
an elongated body member having a proximal end and a distal end adapted for introduction into a tissue opening, said elongated body member further having an opening therein; and

a surgical clip having ends, an open configuration and a closed configuration, said surgical clip being releasably coupled to said elongated body member and arranged so that when in said open configuration said clip ends extend from said elongated body opening at diametrically opposed portions of said body member and generally point toward the proximal end of said body member so that when said body member is introduced into the tissue opening and the surgical clip moved to said open configuration, the ends of said surgical clip can penetrate the tissue adjacent the opening-therein when the body member is retracted.

31. (Currently Amended) A method for closing an opening in tissue having an outer surface and in inner surface comprising the steps of:

introducing a self-closing clip comprising an elongated member and a pair of biasing mechanisms coupled to said member, said elongated member comprising shape memory material and having a memory set closed configuration from which it is moveable to a plurality of open configurations, said biasing mechanisms being selectively adjustable to bias the self-closing clip toward any of said plurality of open configurations, each biasing mechanism comprising a biasing member and an actuator, each biasing member adapted to apply a biasing force to said elongated member to urge said elongated member away from said closed configuration, and each actuator being coupled to one of said biasing members and adapted to activate said biasing member to apply said biasing force to said elongated member;

[[, which has ends, an open configuration and a memory set closed configuration, through the opening;]]

positioning the self-closing clip in an open configuration with said ends directed toward the inner surface of the tissue;

passing said ends through the tissue adjacent to the opening;

closing the opening; and

allowing the self-closing clip to return toward its closed configuration.

32. (Original) The method of claim 31 wherein the tissue edges surrounding the opening are moved along the clip to close the opening.

33. (Original) The method of claim 31 wherein said opening is in an artery.

34. (Original) The method of claim 31 wherein said opening is in a femoral artery.

35. (Original) The method of claim 31 wherein said opening is in an aorta.

36. (Original) The method of claim 31 wherein a sleeve is positioned in said opening and said clip is introduced through said sleeve.

37. (Original) The method of claim 31 wherein a cannula is positioned in said opening and said clip is introduced through said cannula.

38. (Original) The method of claim 31 wherein an introducer sheath is positioned in said opening and said clip is introduced through said introducer sheath.